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For the *Routledge Handbook of Philosophy of Memory* (Editors: Kourken Michaelian and Sven Bernecker)

## **Frederic Bartlett**

Brady Wagoner

Frederic Bartlett is widely credited with the insight that remembering is a reconstructive process, and that social factors play a principle role in it. These arguments were forcefully advanced in his classic book *Remembering: A study in experimental and social psychology* (1932/1995). In this work, he set his approach in contrast to that of Hermann Ebbinghaus's (1885/1913) *Memory: A contribution to experimental psychology*, the other major classic in the psychology of memory. Whereas Ebbinghaus treated memory as a self-contained faculty for retaining bits of information, Bartlett saw it as a creative and situated activity that was closely tied to imagination (see also de Brigard, this volume). These differences led Bartlett to adopt an opposing experimental methodology for studying remembering and to emphasize characteristics of it in his theory that Ebbinghaus had ignored, such as meaning, context and social relations.

In this chapter, I discuss the key features of Bartlett's approach to remembering and in so doing contextualize them within his time as well as some present day theorizing. For an extended explication of Bartlett's theory, its development and appropriation by others readers should consult *The Constructive Mind: Frederic Bartlett's Psychology in Reconstruction* (Wagoner, 2017a). The present chapter begins by describing the context and rationale for his seminal 'experiments on remembering' from which he later developed his celebrated theory. It then proceeds to outline Bartlett's reconstructive theory of remembering mainly through an analysis of his well-known concept of schema and how the memory researchers that followed him have transformed it from his time until the present day. Finally, the chapter highlights the often-neglected social aspects of his theory in order to show that Bartlett aimed to develop an integrated sociocultural and psychological approach to remembering.

### **From Philosophy to Experiments on Remembering**

Bartlett entered the University of Cambridge in 1912 to do an undergraduate degree in 'Moral Sciences'. Having already completed degrees in Logic, Sociology and Ethics, he recalled having at this time "a very predominant philosophical bias in [his] outlook upon life" (Bartlett, 1936, p. 39). This was however short-lived. He was definitively turned off this path after two encounters: first, he was asked by Russell, Moore and MacTaggart to weigh in on the question of "whether the rats said to be seen in an advanced state of delirium tremens were real or not" during a Cambridge intellectual sparring activity called "squash". After trying to agree with all opposing positions he went away feeling depressed. Second, he presented a paper defending Bergson's *Creative Evolution* (see Perri, this volume) at the moral science club, for which he was severely criticized by an audience already very unsympathetic to Bergson.

Fortunately, Bartlett was also becoming better acquainted with psychology. He took a class by analytic psychologist and philosopher James Ward as well as a laboratory

course in experimental psychology run by C.S. Myers and assistant Cyril Burt. The latter class required heavy methodological training based on German style experimentation. Of particular influence here was the Würzburg School's studies and their emphasis on the active character of mind. This idea was based on philosopher Brentano's notion of 'intentionality'. Bartlett's own concept of 'attitude' (a holistic orientation to the world) is a development of this tradition: he used it to both describe *task-directedness* (e.g., 'I must accurately recall all the details') and *general feelings* his participants had of the stimulus material (e.g., 'reminds me of what I read as a child' or 'it is not English'). Moreover, the notion of 'intentionality' also comes close to his characterization of all mental processes as involving 'an effort after meaning,' whereby the person connects up what is given with something else, described as a 'setting,' 'scheme' or 'schema' (see below).

On the opening day of a new well-provisioned psychology laboratory in 1913, director and financier C.S. Myers asked Bartlett if he would carry out some visual perception experiments for visitors. The diversity of interpretations of the same figures so fascinated Bartlett that it inspired him to develop his own programme of experiments on 'some problem of perceiving and imagining' (Bartlett, 1916a), focusing on what the subject contributed to the response, as the Würzburg School had done. In these experiments he demonstrated the role of attitudes, values, interpretations and feelings on perceiving and imagining. These studies directly led Bartlett to his famous experiments on remembering. It should be noted here that Bartlett considered the mind as a unity (rather than separate mental faculties). He thought mental processes differ in degree rather than kind, such that distinctions remain to some extent arbitrary. As such studies on perceiving and imagining directly contribute to his theory and analysis of remembering (for a summary of the contemporary debate on whether imagination and memory differ in degree or kind see Perrin and Michaelian, this volume).

Bartlett's celebrated experiments on remembering were actually first framed as "contributions to the experimental study of the process of conventionalization" (Bartlett, 1916b). Building on a tradition of diffusionist anthropology, his mentor W.H.R. Rivers (1912) coined the term 'conventionalization' to describe the process by which foreign cultural elements (such as decorative designs or folk stories) transform in the direction of the receipt group's conventions when they enter into it. Bartlett had actually hoped to become an anthropologist but Rivers convinced him that rigorous training in psychology would be the best preparation for it. The anthropological influence can also clearly be seen in Bartlett's choice of material for these experiments, which comes from his wide ethnographic readings. Most famously he used a Native American folk story from Boas' *Kathlamet Texts* (1901) called 'War of the Ghosts,' which contains many narrative disjunctions, seeming lack of logic, strange and vivid imagery, supernatural events, alongside other unfamiliar elements. French anthropologist Lévy-Bruhl (1926/1985) would have considered it an excellent example of 'primitive mentality'—an idea Bartlett (1923) later refuted in his book *Psychology and Primitive Culture*.

In his experiments, Bartlett had people in Cambridge read the story twice at regular speed. Then at an interval of typically 15 minutes they were asked to write down the story as best they could remember it. With his 'method of repeated reproduction' he then had participants write down the story several more times at increasing time

intervals, such as one week, after several months and even several years later. Thus, he could track how the story was transformed through time. In another experimental variant called 'the method of serial reproduction,' he had the second participant read and then reproduce the first participant's story. The second participant's reproduction was then given to a third and so on, like the party game 'telephone' or 'Chinese whispers'. With both methods, Bartlett analysed the series of reproductions for what was omitted, added and transformed from original to first reproduction, and from one reproduction to the next. His analytic focus was on qualitative changes in single cases through a series of reproductions. As with the anthropological process of conventionalization, the Native American story *War of the Ghosts* was progressively transformed into a conventional English story: Many details dropped out, the disjunctive narrative structure was smoothed over, 'hunting seals' became the familiar activity 'fishing,' 'war cries' changed to simply 'noises,' the unfamiliar proper names (e.g., 'Egulac') were forgotten, and the supernatural elements were rationalized and then omitted. Changes were particularly 'radical' using the method of serial reproduction, which most closely paralleled the processes by which cultural designs, ideas and rumors are transmitted within and between social groups.

In addition to the methods of repeated and serial reproduction, Bartlett also developed 'the method of description' and 'the method of picture writing'. With the former he presented participants with five faces of military men and after a delay of thirty minutes asked them a series of questions regarding the faces' details. In this experiment he found widespread 'transferences' of details from one face to another and 'importations' of features not present in the serials. He also noted how a subject's 'affective attitude' towards a face shaped the way it was later reproduced. For example, a subject who had the impression of a face being "serious and determined" later remembered it to have a firmer mouth, more prominent chin and square face when compared with the original. Finally, when subjects were reminded of a conventional face of a common British soldier their reproductions changed towards that image. In the method of picture writing subjects had to memorize image-word combinations and then reproduce the images when they heard the words within a story dictated to them. Again, Bartlett found widespread omission, blending and confusion of details.

At the same time that Bartlett was conducting these experiments he was also working with traumatized soldiers at the Cambridge hospital. This experience taught him to the role of personal history in setting up a person's internal conditions for behavior (e.g. attitudes, schema) and the value of working with single cases, which was how he analyzed participant's reproductions in his experiments. Bartlett (1932) even compared an experimentalist to a clinician: "If the experimentalist in psychology once recognizes that he remains to a great extent a clinician, he is forced to realize that the study of any well developed psychological function is possible only in the light of consideration of its history" (p. 15). His clinical experience also led him into the study of Freud's work (see also Schwab, this volume). Although the majority of terms Bartlett uses to describe transformation in reproductions come from diffusionist anthropology (e.g., simplification and elaboration), a number of terms are also employed from psychoanalysis, such as 'condensations,' 'transpositions' and 'rationalizations' (see Wagoner, 2017b).

The fate of Bartlett's experiments on remembering can themselves be analyzed as a serial reproduction experiment (see Ost & Costall, 2002; Wagoner, 2015). The first two decades of replications and extensions of his studies focused on the role of group membership in shaping what was remembered. For example, Nadel (1937) compared the memory of children in two Nigerian tribes to illustrate how each group's distinctive cultural patterns conditioned the result. Moreover, these earlier replications retained Bartlett's analytic focus on qualitative changes in single cases. In the late 1950s both of these features disappeared from replications. These later experiments turn away from a flexible experimental technique towards an approach that better yields itself to inferential statistics. The varieties of qualitative changes in reproductions become lumped under the term 'distortion' or 'error' (see e.g., Gauld and Stephenson, 1967). Furthermore, 'distortion' becomes a synonym 'constructive' or 'reconstructive' remembering, whereas for Bartlett (1932) it was a positive, future-oriented characteristic of memory that could also lead to accuracy. How he theorized this and what factors lead to its misunderstanding will be the focus of the next section.

### **Bartlett's Theory of Reconstructive Remembering**

Bartlett consistently used the active verb 'remembering' rather than 'memory' to highlight that it is a socially and materially situated activity that involves a myriad of different processes, rather than a self-contained mental faculty sufficient unto itself. This perspective comes close to Wittgensteinian (Hamilton, this volume) accounts of remembering which underscore that we are first and foremost speaking of a social practice; only after it is identified as such can we even begin to search for neural correlates (Harré, 2002). Thus, rather than thinking of memories as stored as individuated traces in the organism (Robbins, this volume), Bartlett conceptualized remembering as occurring at the dynamic intersection between a person and the world to aid environmental adaptation. According to this perspective, remembering helps a person master and enjoy a world filled with change. In contrast, recalling all the details of one's life is highly dysfunctional, as bizarre clinical cases like the mnemonist Shereshevsky reveal (Luria, 1987). Bartlett (1932, p. 16) thought our contemporary focus on literal accuracy was the product of an elaborately guarded civilization, and in most situations was more of a hindrance than a help.

We should not, however, assume by this that our memories are necessarily inaccurate or distorted. If nothing else they are accurate enough to maximize our functioning in the world. Actually, Bartlett (1932) discussed a number of specific cases of exceptional accuracy in remembering (see also Ost & Costall, 2002). In his experiments, he pointed out the 'retention of meaningless details' as well as the persistence of an 'attitude,' or accurately remembering the 'gist' of the material. Furthermore, from his field studies in Swaziland he noted that herdsman had a 'prodigious memory' for characteristics of their cattle and exchange of them, because of their central place in Swazi society. In short, accuracy is by no means a transparent notion: We can speak of accuracy on different levels and aspects of our memories. Furthermore, the social context (such as a court of law or discussion with friends) puts different constraints on how accuracy is handled. Bartlett emphasized that remembering was socialized by the group and modified according to the context (more on the social dimensions below).

To theorize this flexible and situation-dependent characteristic of remembering he appropriated the concept of schema from the neurologist Henry Head. Head worked with brain damaged patients who had lost the ability to serially connect body movements. Have a patient close their eyes and move his hand from one position to another and he will register it in the previous location. Previous theories of body movement had argued that earlier movements were stored as mental images in the brain but Head showed the image function remained intact in these patients; thus, another explanation would have to be sought. Another set of patients had lost an arm or a leg but continued to register it along with their changing body postures—the phantom limb phenomenon. Adopting a term from Immanuel Kant's *Critique of Pure Reason*, Head (1920) argued that a postural schema was at work. In contrast to the idea that experiences were stored in some location and later retrieved in roughly the same form as it was put in (i.e., the trace theory of memory), schema implied an active and continuously revised form of memory that operated at the transaction between person and world.

Bartlett generalized the concept of schema to argue that perceiving, imagining and remembering are organized into patterns for which the person is responsible (Wagoner, 2013). People do not passively receive impressions of the world on their sensory organs that are then stored in memory—an idea that goes back to Plato's metaphor of memory as a wax tablet in the mind (Chappell, this volume). Instead, both perception and memory imply a subject engaged in the world according to a set of interests and carrying a past history. Schema is the self-imposed context for action and experience, which guarantees both continuity and flexibility through time. Memory is not a mental faculty but an activity guided by an adapted scheme or plan—an idea that can be traced back, through Bartlett's mentor James Ward, to the philosopher Lotze's notion of the 'activity of memory' (Northway, 1940). Through schema the past carried forward *en mass* and adjusted to the present situation. With it we construct a recognizable world filled with both permanence and change, where ambiguous objects are shaped into the whole and those that do not in any way fit are left out. This pattern-making or organized quality of experience was at the same time being explored by the Gestalt psychologists (see e.g. Koffka, 1935). Bartlett's approach differs in his explicit rejection of the trace theory of memory and his attention to how social life shapes this schematic organization.

Thus, remembering is not about bringing up old images of past impressions; instead memory images come into being through schematic organization. One's memory for a visit to a restaurant will take on characteristics of other occasions, in which the most recent visits will exert the strongest influence on the whole. Bartlett does give a particular function to images of 'picking out' aspects of schema, so that particular episodes from the past can be remembered and inserted into the present context of action. However, as his experiments aptly showed, images are moving and changing with our interests; thus, he is not here bringing in the trace theory of memory. In addition to 'schema' and 'images' Bartlett also placed importance on the concept of attitude—or 'summary feelings' of some material—which explicitly puts feeling and emotion at the center of his theory. He says an act of remembering begins by setting up an attitude, then proceeds to reconstruct the material so as to justify the attitude and finally ends with an attitude in which no more questions are asked. Bartlett (1932, p. 213) succinctly summarized his theory as follows:

Remembering is not the re-excitation of innumerable fixed, lifeless and fragmentary traces. It is an imaginative reconstruction or construction, built out of the relation of our attitude towards a whole active mass of organised past reactions or experience [i.e., schema], and to a little outstanding detail which commonly appears in image or in language form.”

It is important to point out here that Bartlett did not think that people were simply slaves to schema but could actively manipulate them. In this process a person “turns around upon schemata and constructs them afresh” (p. 206). In other words, we are also capable of reflecting on and controlling remembering—what has been more recently discussed as ‘meta-memory’ or more generally ‘meta-cognition’ (Nelson, 1996). This is where human agency enters into the process of remembering. For Bartlett ‘turning around upon schema’ points to a more radical form of reconstruction than the simple activity of schema, in that multiple schemata are brought into play checking and supporting each other in the act of remembering. In characteristically British fashion, Bartlett (1935) gives the example of journalist’s account of a cricket match: “To describe the batting of one man he finds it necessary to refer to a sonata of Beethoven; the bowling of another reminds him of a piece of beautifully wrought rhythmic prose written by Cardinal Newman” (p. 224). More recently, Wagoner and Gillespie (2014) have analysed this process in a conversational remembering experiment, extending Bartlett’s (1932) method of repeated reproduction. In contrast to the practice of only looking at memory outcomes, this studies shows how memories *emerge* through a process of questioning, suggesting and evaluating.

Schema theory changed when it became a central concept during the cognitive revolution in the 1960s and 1970s. Moving away from Bartlett’s bio-functional approach, the primary metaphor of mind was a computer that processes information rather than an organism that makes meaning to act in an environment. At this time schema becomes a relatively static knowledge structure with nodes that accept items of a certain kind and fill in default values when information is missing. For example, the schema for a graduate student’s room includes desk, calendar, pencils, books; we are more likely to remember a room that is consistent with this and may fill in items that fit the schema even if they are not present (Brewer and Treyens, 1981). Because schema is assumed to be relatively static in this account no one bothered to do *repeated* reproduction experiments. Moreover, Bartlett’s idea that we can ‘turn around upon’ and reflect on our schema is forgotten. Finally the social dimensions of schema were not elaborated, and often considered negligible. In more recent developments of schema theory a social and cultural focus has become central (e.g., Cole, 1996; Wertsch, 2002; McVee, Dunsmore and Gavelek, 2005). The next section will highlight how Bartlett theorized the social dimensions of remembering.

### **The Social Psychology of Remembering**

Bartlett’s (1932) famous book was explicitly ‘a study in experimental and social psychology,’ yet theorists have typically neglected the latter ‘social’ contribution of the book. This was made possible by the structure of *Remembering* itself: his experiments and theory of reconstructive remembering were in Part I of the book, and his social theorizing was only explicitly addressed in Part II, thus making it easier to ignore. Bartlett’s experiments clearly illustrated how internalized group conventions shaped what was remembered (e.g., in the story *War of the Ghosts* ‘hunting seals’ is

not a familiar English activity and hence it tended to be changed to 'fishing'), but these experiments largely left aside the role of the concrete social process happening *between* people, except in how the context of an experiment created an attitude more focused on accuracy his participants. Social groups put definite constraints on how and what we remembering "by providing that setting of interest, excitement and emotion which follows the development of specific images and socially by providing a persistent framework of restrictions and customs which acts as the schematic basis for constructive memory" (p. 255)

At the same time Bartlett was developing his theory, Halbwachs (1925/1992) published his classic work *Les cadres sociaux de la mémoire* (translated as *On Collective Memory*) arguing, "It is in society that people normally acquire their memories. It is also in society that they recall, recognize, and localize their memories" (p. 38). According to Halbwachs, people remember through "social frameworks," which are first of all the people one interacts with and secondly a symbolic framework of condensed images and structure to give them order and meaning (see also Nikulin, this volume). Even in an isolated experiment people use language to remember, which places them in social frameworks. The idea of social frameworks comes very close to Bartlett's description of the role of conventions in remembering. However, Bartlett (1932) thought Halbwachs went to far in claiming that the group itself had memory: there is "memory *in* the group, and not memory *of* the group" (p. 296). This is not to say that we cannot speak of customs, traditions and institutes as literally properties of groups. Bartlett (1932) is clear "Social grouping produces new properties both of behavior and of experience" (p. 298). But remembering is a process irreducible to purely social factors; it is simultaneously personal and collective. Whereas Halbwachs focused much more on how groups organize memory, Bartlett's interest is in how social forces condition a given individual's act of remembering.

Bartlett's social psychology of remembering is analytically divided into two areas, which he called the matter and manner of recall. The former concerns how social factors condition *what* we remember and the latter *how* we remember it (what might be called 'cognitive style' today). These are mainly illustrated with examples from his 1929 trip to Swaziland. In regards to the matter of recall, Bartlett describes how a group of Swazis that had visited England remembered police officers as being particular friendly. This was because the gesture the officers used to stop traffic was similar to the one they used to greet their fellows, demonstrating how a social framework determines what is selectively attended to and remembered. In terms of the amount of material recalled Bartlett found no major difference between Swazis and English memory for a short message. However, there was one topic in which Swazis' remembered with much greater detail and accuracy: transactions concerning cattle, which was an integral part of their social framework. Bartlett tested a Swazi herdsman's recall for his employer's record of cattle transactions from the previous year. The Swazi easily did so making only two 'trifling errors'.

With regards the manner of recall, Bartlett argued that certain forms of social organization and customs, where no dominant interest lies, lead natives into rote recall. In other words, they recalled all information in a chronological sequence rather than picking out and reconfiguring the relevant pieces of information. It is a bit like having to recite the whole alphabet to remember the placement of a particular letter. Bartlett can easily be criticized here for slipping into a colonial mindset in his



characterization of Swazi memory as having few interests and tending towards rote recall. Cole and Gray (1972) have shown in their cross-cultural study of Kpelle rice farmers that people living in traditional societies do not tend to remember by rote, although they are also less likely to group items into semantic categories in remembering them.

Bartlett (1932), however, also gives a more plausible explanation for the relationship between social organization and style of recall. He notes how when a story is remembered in the presence of others certain characteristics will spring forth, such as the comic, the pathetic or the dramatic, depending on the interests of the audience. This is why when a story that was orally transmitted is written down it often loses its spirit, even if the content remains effectively the same. Inspired by cybernetics (Norbert Wiener was a friend of Bartlett at Cambridge), the narrator is seen to be in a feedback loop with the audience such that the story is adapted to conform to the audience's framework of understanding. In his earlier book *Psychology and Primitive Culture*, Bartlett (1923) had argued that folk stories change as they enter new social groups. Different characters, events and morals take prominence as the stories are told so as to connect up with the new social framework. He also returns to the theory of how different forms of social relationship (i.e., dominance, submissiveness and friendship) affect the transmission of culture within and between groups in *Remembering*:

Change the audience to an alien group, and the manner of recall again alters. Here the most important things to consider are the social position of the narrator in his own group, and his relation to the group from which his audience is drawn. If the latter group are submissive, inferior, he is confident, and his exaggerations are markedly along the lines of the preferred tendencies of his own group. If the alien audience is superior, masterly, dominating, they may force the narrator into the irrelevant, recapitulatory method until, or unless he, wittingly or unwittingly, appreciates their own preferred bias. (p. 266)

### **Conclusion: Towards an Integrative Theory of Constructive Remembering**

Constructiveness in Bartlett's theory is not simply the re-assembly of pieces according to a pre-set pattern. Instead, it involves an innovative adaption to the novel circumstances of the present in anticipation of the future (see also Perrin and Michaelian, this volume). This living forward requires a flexible use of the past rather than literal reproduction of it. Remembering emerges within the stream of living (i.e., present schema) in order to bring about a novel relationship to the environment and increase one's avenues for action within it. The person 'turns around upon' their attuned flow of activity with the environment to discover new possibilities for action there. Social factors are key to this process by providing both the condition and means for remembering to unfold. Bartlett's experiments elegantly showed the prominence of group conventions in memory reconstruction. His theorizing of the role of others in recall also helps us to identify the more direct social forces on this process. But Bartlett was clear that remembering cannot be reduced to social factors; it is simultaneously personal. An integrative constructivist theory of remembering will have to show how the social and personal **are** actively coordinated with one another in

any act of remembering. Theorists will themselves have to be constructive to adequately develop this integrative approach.

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